



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,147	04/15/2004	Akio Takahashi	09792909-5845	7825

26263 7590 04/17/2007
SONNENSCHN NATH & ROSENTHAL LLP
P.O. BOX 061080
WACKER DRIVE STATION, SEARS TOWER
CHICAGO, IL 60606-1080

EXAMINER

DOVE, TRACY MAE

ART UNIT	PAPER NUMBER
----------	--------------

1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/825,147

Applicant(s)

TAKAHASHI ET AL.

Examiner

Tracy Dove

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/14/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 12/14/06 has been considered by the examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 4 and 10-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Christian et al., US 6,991,875.

Christian teaches an alkaline battery including a nickel oxyhydroxide cathode and a zinc anode (abstract). The nickel oxyhydroxide particles can have an average particle size ranging from 5-30 nm and may be β -nickel oxyhydroxide (8:30-33). The particles may be spherical in shape and may be produced by chemical oxidation of nickel hydroxide (8:12-26). Regarding claim 3, not larger than 0.5% by weight includes the value zero. The battery comprises a sealed cylindrical can and a separator (Figure 1). Optionally, the cathode can include an oxidative additive, a binder or both. The cathode may also include a mixture of two active cathode

Art Unit: 1745

materials such as nickel oxyhydroxide and manganese dioxide. The binder may be a fluorocarbon resin such as polytetrafluoroethylene in an amount of between 0.1-2 wt% of the cathode. The cathode includes the active material and conductive carbon particles (7:1-40).

Thus the claims are anticipated.

*

Claims 1, 3 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamamoto et al., US 6,686,091.

Yamamoto teaches a nickel-zinc battery comprising a positive electrode containing β -nickel oxyhydroxide and a negative electrode containing zinc. The β -nickel oxyhydroxide has spherical particles and a mean particle size in the range of 19-40 μm . The battery has an alkaline electrolyte and a separator between the positive electrode and the negative electrode. The battery comprises a sealed cylindrical can (3:60-4:41). The β -nickel oxyhydroxide is produced by a chemical oxidation method (5:35-67; 9:20-38). Regarding claim 3, not larger than 0.5% by weight includes the value zero. Thus the claims are anticipated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al., US 6,686,091 and/or Christian et al., US 6,991,875.

Art Unit: 1745

See discussion of Yamamoto and/or Christian above. Neither Yamamoto nor Christian explicitly state the cumulative pore volume in connection with the pore sizes of the β -nickel oxyhydroxide.

However, the invention would have been obvious to one having ordinary skill in the art at the time the invention was made because the courts have held that where the only difference between the prior art and the claimed invention was a recitation of relative dimensions (pore size) of the claimed material (β -nickel oxyhydroxide) and a material having the claimed relative dimensions would not perform differently than the prior art material (β -nickel oxyhydroxide), the claimed material was not patentably distinct from the prior art material. See MPEP 2144.04. Furthermore, since the prior art β -nickel oxyhydroxide and the claimed β -nickel oxyhydroxide are both produced by chemical oxidation, one of skill would have known the two β -nickel oxyhydroxide materials would have had similar characteristics.

*

Claims 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christian et al., US 6,991,875.

Christian teaches an alkaline battery including a nickel oxyhydroxide cathode and a zinc anode (abstract). The nickel oxyhydroxide particles can have an average particle size ranging from 5-30 mm and may be β -nickel oxyhydroxide (8:30-33). The particles may be spherical in shape and may be produced by chemical oxidation of nickel hydroxide (8:12-26). Regarding claim 3, not larger than 0.5% by weight includes the value zero. The battery comprises a sealed cylindrical can and a separator (Figure 1). Optionally, the cathode can include an oxidative additive, a binder or both. The cathode may also include a mixture of two active cathode

Art Unit: 1745

materials such as nickel oxyhydroxide and manganese dioxide. The binder may be a fluorocarbon resin such as polytetrafluoroethylene in an amount of between 0.1-2 wt% of the cathode. The cathode includes the active material and conductive carbon particles (7:1-40).

Christian does not explicitly state the mean particle size of the manganese dioxide.

However, the invention would have been obvious to one having ordinary skill in the art at the time the invention was made because the courts have held that where the only difference between the prior art and the claimed invention was a recitation of relative dimensions (particle size) of the claimed material (manganese dioxide) and a material having the claimed relative dimensions would not perform differently than the prior art material (manganese dioxide), the claimed material was not patentably distinct from the prior art material. See MPEP 2144.04. Furthermore, one of skill would have reasonably concluded that the manganese dioxide cathode material of Christian would have had a similar particle size to that of the nickel oxyhydroxide cathode material of Christian.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is 571-272-1285. The examiner can normally be reached on Monday-Thursday (9:00-7:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 14, 2007



TRACY DOVE
PRIMARY EXAMINER